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NEWS 18	DEC 27	CA/CAplus enhanced with more pre-1907 records
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=> s wax and resin and hollow powder
L1 13 WAX AND RESIN AND HOLLOW POWDER

=> s l1 and coloring material and thickener
L2 1 L1 AND COLORING MATERIAL AND THICKENER

=> display l1 1-13
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=> display l1 1-13 abs ibib kwic

L1 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN
AB The materials contain colorants, shape-forming materials, and fine hollow powders. Thus, a red drawing material (diameter 2 mm) containing magenta pigment 17, yellow pigment 5, paraffin wax 20.5, glycerin fatty acid ester 30, talc 17.5, and hollow glass powders (average particle size 40 μm) 5 parts showed smooth drawing properties on glass.
ACCESSION NUMBER: 2004:963198 CAPLUS
DOCUMENT NUMBER: 141:396996
TITLE: Solid drawing materials with appropriate abrasion properties on glass, metal, and plastic surfaces
INVENTOR(S): Ishii, Tadashi
PATENT ASSIGNEE(S): Pilot Precision Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004315602	A	20041111	JP 2003-109121	20030414
PRIORITY APPLN. INFO.:			JP 2003-109121	20030414

AB The materials contain colorants, shape-forming materials, and fine hollow powders. Thus, a red drawing material (diameter 2 mm) containing magenta pigment 17, yellow pigment 5, paraffin wax 20.5, glycerin fatty acid ester 30, talc 17.5, and hollow glass powders (average particle size 40 μm) 5 parts showed smooth drawing properties on glass.
ST solid drawing material hollow powder abrasion; glass hollow powder crayon smooth surface
IT Glass microspheres
RL: TEM (Technical or engineered material use); USES (Uses)

(Scotchlite K 1, hollow powder; solid drawing materials containing hollow powders with appropriate abrasion properties and smooth drawing properties on glass, metal, and plastic surfaces)

IT Resin acids
RL: TEM (Technical or engineered material use); USES (Uses)
(esters; solid drawing materials containing hollow powders with appropriate abrasion properties and smooth drawing properties on glass, metal, and plastic surfaces)

IT Spheres
(hollow; solid drawing materials containing hollow powders with appropriate abrasion properties and smooth drawing properties on glass, metal, and plastic surfaces)

IT Terpenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polymers; solid drawing materials containing hollow powders with appropriate abrasion properties and smooth drawing properties on glass, metal, and plastic surfaces)

IT Coloring materials
Pigments, nonbiological
(solid drawing materials containing hollow powders with appropriate abrasion properties and smooth drawing properties on glass, metal, and plastic surfaces)

IT Paraffin waxes, uses
Polyoxyalkylenes, uses
Waxes
RL: TEM (Technical or engineered material use); USES (Uses)
(solid drawing materials containing hollow powders with appropriate abrasion properties and smooth drawing properties on glass, metal, and plastic surfaces)

IT 749926-11-2, Scotchlite K 37
RL: TEM (Technical or engineered material use); USES (Uses)
(hollow powder; solid drawing materials containing hollow powders with appropriate abrasion properties and smooth drawing properties on glass, metal, and plastic surfaces)

IT 56-81-5D, Glycerin, fatty acid esters 9004-99-3, Polyethylene glycol monostearate 9005-00-9, Polyethylene glycol stearyl ether 14807-96-6, Talc, uses 25322-68-3, PEG 4000 27306-79-2, Polyethylene glycol myristyl ether
RL: TEM (Technical or engineered material use); USES (Uses)
(solid drawing materials containing hollow powders with appropriate abrasion properties and smooth drawing properties on glass, metal, and plastic surfaces)

L1 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN

AB Disclosed is a cosmetic for cilia which contains (a) a wax and/or (b) a resin together with (c) a hollow powder. Owing to this constitution, the cosmetic can give more body to the cilia and, at the same time, exhibits favorable curling and curl-retaining effects. Moreover, it shows favorable performance, e.g., easiness in application to the cilia and easiness in recoating. Moreover, it is excellent in uniform finishing and water proofness and oil proofness after the application. A mascara composition containing decamethylcyclopentasiloxane 20, microcryst. wax 17, trimethylsiloxysilicate 15, hollow powder (Microsphere MFL-50SCA) 5, black iron oxide 5, dextrin fatty acid ester 13, and light isoparaffin balance to 100 % was formulated.

ACCESSION NUMBER: 2004:857345 CAPLUS
DOCUMENT NUMBER: 141:337289
TITLE: Cosmetic for cilia containing wax and/or polymers, and hollow powders
INVENTOR(S): Mori, Atsumi; Takahashi, Hideki; Tomomasa, Satoshi; Yokoyama, Hiroyuki
PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan

SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004087078	A1	20041014	WO 2004-JP4628	20040331
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1649893	A1	20060426	EP 2004-724751	20040331
R: DE, FR, GB, IT				
CN 1767811	A	20060503	CN 2004-80009035	20040331
US 2006257343	A1	20061116	US 2005-550937	20050928
PRIORITY APPLN. INFO.:			JP 2003-96658 A	20030331
			WO 2004-JP4628 W	20040331

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Cosmetic for cilia containing wax and/or polymers, and hollow powders

AB Disclosed is a cosmetic for cilia which contains (a) a wax and/or (b) a resin together with (c) a hollow powder. Owing to this constitution, the cosmetic can give more body to the cilia and, at the same time, exhibits favorable curling and curl-retaining effects. Moreover, it shows favorable performance, e.g., easiness in application to the cilia and easiness in recoating. Moreover, it is excellent in uniform finishing and water proofness and oil proofness after the application. A mascara composition containing decamethylcyclopentasiloxane 20, microcryst. wax 17, trimethylsiloxysilicate 15, hollow powder (Microsphere MFL-50SCA) 5, black iron oxide 5, dextrin fatty acid ester 13, and light isoparaffin balance to 100 % was formulated.

ST wax polymer hollow powder mascara

IT Beeswax
Cilia
(cosmetic for cilia containing wax and/or polymers, and hollow powders)

IT Carnauba wax
Jojoba oil
Lanolin
Waxes
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(cosmetic for cilia containing wax and/or polymers, and hollow powders)

IT Cosmetics
(mascaras; cosmetic for cilia containing wax and/or polymers, and hollow powders)

IT Hydrocarbon waxes, biological studies
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(microcryst.; cosmetic for cilia containing wax and/or polymers, and hollow powders)

IT 52405-03-5, Microsphere MFL 100CA
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(Microsphere MFL 100CA; cosmetic for cilia containing wax and/or polymers, and hollow powders)

IT 79-10-7D, Acrylic acid, esters, polymers 9002-88-4 9002-89-5, Polyvinyl alcohol 9003-20-7, Polyvinyl acetate 9003-27-4, Polyisobutylene 9003-31-0, Polyisoprene 9003-32-1, Polyethyl acrylate 9003-39-8, Polyvinylpyrrolidone 11099-07-3, Glyceryl stearate 56275-01-5 394646-98-1, GMH-0850 773146-94-4, Microsphere MFL 50SCA
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(cosmetic for cilia containing wax and/or polymers, and hollow powders)

L1 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2007 ACS on STN

AB Oily cosmetics contain partially crosslinked organopolysiloxane polymers, silicone oils, fluoro silicone oils, and hollow resin powders (average particle size 1-80 μm, apparent sp. gr. ≤0.5). A cosmetic foundation containing polyethylene wax 2.0, ceresin 1.0, di-2-ethylhexyl succinate 15.0, KSG-16 (partially crosslinked organopolysiloxane mixture) 3.0, KF-5002 (fluoro silicone) 5.0, KF-6026 (silicone surfactant) 1.5, KF-56 (Me Ph polysiloxane) 10.0, octyl methoxycinnamate 5.0, TiO2 10.0, an iron oxide pigment mixture 2.0, TiO2-coated hollow powder of Me methacrylate-acrylonitrile copolymer 7.0, sericite 4.0, vitamin E 0.1, Me p-hydroxybenzoate 0.2, perfume 0.1, and liquid paraffin to 100 weight% was not sticky, spread well and formed a matte film on the skin, and showed no changes in appearance after 3-mo storage at 50°.

ACCESSION NUMBER: 2003:870599 CAPLUS
DOCUMENT NUMBER: 139:369355
TITLE: Oily cosmetics containing silicones
INVENTOR(S): Someya, Yuki; Isobe, Yoshio
PATENT ASSIGNEE(S): Kosei Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003313105	A	20031106	JP 2002-269765	20020917
JP 3816045	B2	20060830		

PRIORITY APPLN. INFO.: JP 2002-44270 A 20020221

AB Oily cosmetics contain partially crosslinked organopolysiloxane polymers, silicone oils, fluoro silicone oils, and hollow resin powders (average particle size 1-80 μm, apparent sp. gr. ≤0.5). A cosmetic foundation containing polyethylene wax 2.0, ceresin 1.0, di-2-ethylhexyl succinate 15.0, KSG-16 (partially crosslinked organopolysiloxane mixture) 3.0, KF-5002 (fluoro silicone) 5.0, KF-6026 (silicone surfactant) 1.5, KF-56 (Me Ph polysiloxane) 10.0, octyl methoxycinnamate 5.0, TiO2 10.0, an iron oxide pigment mixture 2.0, TiO2-coated hollow powder of Me methacrylate-acrylonitrile copolymer 7.0, sericite 4.0, vitamin E 0.1, Me p-hydroxybenzoate 0.2, perfume 0.1, and liquid paraffin to 100 weight% was not sticky, spread well and formed a matte film on the skin, and showed no changes in appearance after 3-mo storage at 50°.

ST oily cosmetic silicone hollow powder polyacrylic; fluoro silicone oil hollow polymer cosmetic

IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(di-Me, Me Ph, KF 56; oily cosmetics containing silicones and hollow resin powders)

IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(di-Me, hydroxyalkyl Me, ethoxylated, KF 6015; oily cosmetics containing

silicones and hollow resin powders)
IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(fluorine-containing, KF 5002; oily cosmetics containing silicones and hollow
resin powders)
IT Cyclosiloxanes
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(fluorine-containing; oily cosmetics containing silicones and hollow resin powders)
IT Surfactants
(lipophilic; oily cosmetics containing silicones and hollow resin powders)
IT Human
(oily cosmetics containing silicones and hollow resin powders)
IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(oily cosmetics containing silicones and hollow resin powders)
IT Cosmetics
(oily; oily cosmetics containing silicones and hollow resin powders)
IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(polyether-, KF 6028; oily cosmetics containing silicones and hollow resin powders)
IT Fluoropolymers, biological studies
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(polysiloxane-, KF 5002; oily cosmetics containing silicones and hollow resin powders)
IT Polyethers, biological studies
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(siloxane-, KF 6028; oily cosmetics containing silicones and hollow resin powders)
IT 42557-10-8, KF 96
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(KF 96; oily cosmetics containing silicones and hollow resin powders)
IT 31900-57-9D, Dimethylsilanediol homopolymer, trimethylsilyl-terminated
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(assumed monomers; oily cosmetics containing silicones and hollow resin powders)
IT 471-34-1, Calcium carbonate, biological studies 13463-67-7, Titania, biological studies 14807-96-6, Talc, biological studies
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(hollow acrylic polymer powder coated with; oily cosmetics containing silicones and hollow resin powders)
IT 30396-85-1, Acrylonitrile-methyl methacrylate copolymer
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(hollow powder; oily cosmetics containing silicones and hollow resin powders)
IT 541-02-6, SH 245 2063-78-7 2374-14-3 9010-76-8 142860-62-6 145686-34-6, Abil EM 90 314020-17-2, KSG 15 319427-75-3, KF 6026 404839-58-3 501645-15-4, KSG 16 501645-23-4, KSG 18
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(oily cosmetics containing silicones and hollow resin powders)

L1 ANSWER 4 OF 13 USPATFULL on STN
AB An eyelash cosmetic according to present invention, by blending (a) wax and/or (b) resin, and (c) hollow powder, can impart a voluminous feeling and, at the same time, perform excellent curling effect and curl retaining effect, and excellent usability such as easiness eyelash coating, and easiness overlaying, and also perform excellent uniformity of finishing, water resistance and oil resistance after coating.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2006:300989 USPATFULL
TITLE:	Eyelash cosmetic
INVENTOR(S):	Mori, Atsumi, Yokohama-shi, JAPAN Takahashi, Hideki, Yokohama-shi, JAPAN Tomomasa, Satoshi, Yokohama-shi, JAPAN
PATENT ASSIGNEE(S):	Shiseido Co., Ltd., Chuo-ku, JAPAN, 104-8010 (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2006257343	A1	20061116	
APPLICATION INFO.:	US 2004-550937	A1	20040331	(10)
	WO 2004-JP4628		20040331	
			20050928	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2003-96658	20030331

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	RANKIN, HILL, PORTER & CLARK, LLP, 925 EUCLID AVENUE, SUITE 700, CLEVELAND, OH, 44115-1405, US
NUMBER OF CLAIMS:	8
EXEMPLARY CLAIM:	1
LINE COUNT:	1010

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An eyelash cosmetic according to present invention, by blending (a) wax and/or (b) resin, and (c) hollow powder, can impart a voluminous feeling and, at the same time, perform excellent curling effect and curl retaining effect, and excellent. . .

SUMM In general, these eyelash cosmetics are constructed of a solid oil ingredient such as a wax, and a powder, and a film-forming agent as a main component. In order to realize comfortable usability, a feeling of use and function as a cosmetic, blending of a wax, a powder and a film-forming agent having various properties and natures is being studied. For example, by increasing an amount of a wax , a powder and a thickener to be blended, a solid part remaining on an eyelash is increased, and a volume. . .

SUMM On the other hand, hitherto, as a cosmetic in which a hollow expanded resin powder prepared by a method of heating and expanding a thermoplastic resin powder with a volatile expanding agent encapsulated therein is blended, foundation has been studied (e.g. Japanese Patent Application Laid-Open (JP-A). . .

SUMM . . . order to attain the aforementioned object, the present inventors intensively studied, as a result, found out that, by blending a wax and/or a resin, and a hollow powder together, a volume effect is excellent, finishing is not deteriorated and, at the same time, a curling effect and a. . .

SUMM That is, the present invention relates to an eyelash cosmetic comprising; (a) a wax and/or (b) a resin, and (c) a hollow powder. In addition, it is preferable that the eyelash cosmetic of the present invention comprising; 0.1 to 55% by mass of (a) a wax and/or (b) a resin, and 0.01 to 20% by mass of (c) a hollow powder. In addition, in the eyelash cosmetic of the present invention, it is preferable that a ratio of cubic volume of (a) a wax and/or (b) a resin to cubic volume of (c) a hollow powder is 1:10 to 1:0.01. In addition, it is preferable that the eyelash cosmetic of the present invention comprising; 1 to 30% by mass of (a) a wax, 0.1 to 25% by mass of (b) a resin, and 0.01 to 20% by mass of (c) a hollow powder. In addition, it is preferable

that the eyelash cosmetic of the present invention further comprising 0.1 to 30% by mass. . .

DETD The (a) wax used in the present invention means an oily ingredient which is solid at a normal temperature, is not particularly limited as far as it is such the oily ingredient. Examples include beeswax, candelilla wax, cotton wax, carnauba wax, bayberry wax, insect wax, whale wax, montan wax, bran wax, lanolin, kapok wax, Japan wax, lanolin acetate, liquid lanolin, sugar cone wax, lanolin fatty acid isopropyl, hexyl laurate, cyclic lanolin, jojoba wax, hard lanolin, shellac wax, beeswax, microcrystalline wax, paraffin wax, POE lanolin alcohol ether, POE lanolin alcohol acetate, POE cholesterol ether, lanolin fatty acid polyethylene glycol, fatty acid glyceride, hardened castor oil, vaseline, POE hydrogenated lanolin alcohol ether, silicone wax, and jojoba ester. These waxes are used by selecting one or more. kinds. Among them, microcrystalline wax and candelilla wax are particularly preferable.

DETD The (b) resin used in the present invention is a compound which functions as a film-forming agent, and is not particularly limited as far as it is a resin, which is usually blended in a cosmetic as a film-forming agent. Examples include a fluorine resin, a silicone resin, an aromatic hydrocarbon resin, a terpene resin, polybutene, polyisoprene, an alkyd resin, a PVP-modified polymer, a polyvinylpyrrolidone-modified polymer, a polymer emulsion resin, polyvinyl alcohol, polyvinylpyrrolidone, polyvinyl acetate, polyalkyl acrylate, a rosin acid-based resin, a candelilla resin, polyurethane, a cellulose derivative such as alkylcellulose and nitrocellulose, and dextrin. Examples of the fluorine resin include a resin in which a hydrocarbon main chain has a perfluoroalkyl group in a pendant manner, such as a perfluoroalkyl group-containing acryl resin, and a perfluoroalkyl group-containing methacryl resin; a resin in which a main chain itself is fluorocarbon such as polyvinylidene fluoride; a resin in which a main chain has both of a hydrocarbon part and a fluorocarbon part, obtained by radical copolymerization of. . . being not limiting to the aforementioned compounds. Examples of a commercially available product in a form in which this fluorine resin is dissolved in a volatile oil include Fluorocoat EC-104, EC-106, EC-200, and EC-300 (all manufactured by Asahi Glass Co., Ltd.). As a silicone resin , a copolymer composed of a structural unit of SiO.sub.2, RSiO.sub.3/2, or R.sub.2SiO (R is hydrogen, a hydrocarbon group of a. . . silicone rubber in which a polymerization degree (n) of dimethylpolysiloxane is 5,000 to 8,000, trimethylsiloxysilylpropylcarbamic acid and a fluorine-modified silicone resin may also be used. In addition, Nisseki Neo Polymer T, Neo Polymer 120, Neo Polymer 140 (all manufactured by NIPPON PETROCHEMICALS COMPANY, LTD.) as an aromatic hydrocarbon resin; Quintone A-100, Quintone B-170, Quintone C-100 (all manufactured by NIPPON ZEON CORPORATION) as a terpene-based resin; polybutene 200 (manufactured by Idemitsu Kousan Co., Ltd.) as a polybutene; Escoltz 1071, Escoltz 1103 (all manufactured by Exxon) as. . . EL8011, Solid Beccosol No. 31, Solid Beccosol No. 96 (all manufactured by Dainippon Ink and Chemicals, Incorporated) as an alkyd resin; and Ganex V-216, Ganex V-220 (all manufactured by Gokyo Trading Co., Ltd.) as a PVP-modified polymer can be exemplified as a commercially available product. Examples of the polymer emulsion resin include a copolymer emulsion of vinyl hydrochloride and a monomer such as ethyl acrylate, methyl methacrylate, butyl methacrylate, methacrylic acid, and vinylidene chloride. Among them, particularly, a silicone-based resin is preferable and, among other things, trimethylsiloxysilicic acid is preferable. As a commercially available product, KF7312J, and X-21-5250 (manufactured by. . .

DETD The eyelash cosmetic of the present invention may comprise one of the

(a) wax and the (b) resin or may comprise both of the (a) wax and the (b) resin. An amount of the (a) wax and/or the (b) resin in the present invention to be blended is appropriately adjusted depending on a formulation of a composition, being not particularly. . .

DETD It is preferable that the eyelash cosmetic of the present invention comprises both of the (a) wax and the (b) resin.

DETD An amount of the (a) wax in the present invention to be blended is appropriately adjusted depending on a formulation of a composition, and is preferably. . .

DETD An amount of the (b) resin in the present invention to be blended is appropriately adjusted depending on a formulation of a composition, and is preferably. . .

DETD The (c) hollow powder used in the present invention can enhance a voluminous feeling of an eyelash and, at the same time, improve a curling force and a curl retaining force. As such the (c) hollow powder, there are mainly a hollow resin powder and a hollow inorganic powder.

DETD The hollow resin powder is such that a thermoplastic resin powder with a volatile expanding agent, which is volatilized mainly by heating, encapsulated therein has been heated, swollen or expanded.

DETD Examples of a resin which forms a shell of this hollow expanded resin powder include a homopolymer or a copolymer composing of one or more monomers selected from a vinyl-based monomer such as. . .

DETD This hollow resin powder is prepared by a method of heating and expanding a thermoplastic resin powder with a volatile expanding agent encapsulated therein, as disclosed, for example, in Japanese Patent Application Publication (JP-B) No. 59-53290. The hollow resin powder is generally commercially available, and examples include Matsumoto Microsphere MFL series manufactured by Matsumoto Yushi-Seiyaku Co., Ltd. [MFL-50STI (particle. . .

DETD . . . by a powder particle itself and a mass thereof and, for example, when refers to "true specific gravity" of a hollow powder, it is calculated using also a space of an interior of a hollow powder particle as a volume of the particle itself. Alternatively, herein, "true specific gravity" is simply referred to as "specific gravity". . .

DETD In addition, a surface of the (c) hollow powder may be covered with an inorganic substance. In a method of covering an inorganic powder, as disclosed, for example, in JP-A No. 4-9319, a covered powder is obtained by mixing a volatile expanding agent-encapsulated thermoplastic resin before expansion or during expansion, and an inorganic powder, and heating the mixture. Examples of other method include a method of mixing a dispersion of an inorganic power in water or an organic solvent, and a hollow resin powder, and drying this, a wet treating method of covering with a film by a method of spraying this inorganic dispersion to a hollow resin powder, and drying this, and a method of complexing by a physical force such as a high impact force.

DETD An inorganic powder which covers a surface of the hollow resin powder is not particularly limited, but is selected depending on the desired effect, and examples include talc, sericite, mica, calcium. . . particle diameter is also not particularly limited, but is preferably 0.001 to 20 μm. A mass ratio of the hollow resin powder and the inorganic powder is preferably 5:95 to 50:50.

DETD In the present invention, the (c) hollow powder is preferably a hollow resin powder in that a voluminous feeling of an eyelash is enhanced and, at the same time, a curling force and a curl retaining force are improved and, as a resin for forming a shell, vinyl chloride, vinylidene chloride, and methyl methacrylate and the like are preferable and, as the volatile. . .

DETD An amount of the (c) hollow powder in the present

invention to be blended is appropriately adjusted depending on a formulation of a composition and is preferably. . .

DETD . . . the eyelash cosmetic of the present invention, it is preferable that a ratio of a cubic volume of the (a) wax and/or the (b) resin to a cubic volume of the (c) hollow powder to be blended is 1:10 to 1:0.01. Further preferably, the ratio is 1:5 to 1:0.05. When a cubic volume of the (c) hollow powder to be blended is grater than 10-fold a total cubic volume of the (a) wax and the (b) resin, an amount of a cosmetic which can be adhered to an eyelash is decreased, a sufficient curling effect and a. . . not obtained, and finishing is deteriorated in some cases. On the other hand, when a cubic volume of the (c) hollow powder is smaller than 0.01-fold a total cubic volume of the (a) wax and the (b) resin, a cosmetic itself becomes too heavy, a sufficient curling effect and curl retaining effect are not obtained, and finishing is. . .

DETD . . . Yellow No. 5, Blue No. 1, Blue No. 404, and Green No. 3; natural pigments such as chlorophyll, and β-carotene; resin powders such as nylon, cellulose, and polyethylene; dyes. These (d) coloring materials can be used alone, or as a combination. . .

DETD Blending of Hollow Powder

DETD First, the present inventors prepared an eyelash cosmetic comprising a wax, a resin and a hollow powder, and a hardness, a specific gravity after solvent volatilization, a volume effect, a curling effect, a curl retaining effect and. . . 2 3 4 5

Light isoparaffin	To 100	To 100	To 100	To 100	To 100
Decamethylcyclopentasiloxane	20.0	20.0	20.0	20.0	20.0
Microcrystalline wax	22.0	17.0	17.0	17.0	17.0
Trimethylsiloxysilicic acid	20.0	15.0	15.0	15.0	15.0
Titanium oxide	--	5.0	--	--	--
Hollow powder (MFL-50SCA, specific gravity 0.29)	--	--	--	5.0	--
(Ganzpearl GMH-0850, specific gravity 0.65)	--	--	--	--	--
(MFL-100. . .					

DETD An oily phase containing a wax was heated to 90° C. to melt it, and a dispersing-treated pigment part was added thereto, and cooled to 40°. . .

DETD As shown in the Table 1, in Test Example 1 in which a relatively large amount of a wax and a resin were blended, a volume effect, a curling effect, a curl retaining effect, and finishing were inferior. In addition, in Test Example 2 in which a titanium oxide powder was blended in addition to a wax and a resin, a curling effect, a curl retaining effect, and finishing were further inferior. To the contrary, in Test Examples 3 to 5 in which various hollow powders were blended together with a wax and a resin, an excellent volume effect and finishing were exhibited and, at the same time, a curling effect and a curl retaining. . .

DETD Blending Amount of Wax

DETD Then in order to study an amount of a wax to be blended in an eyelash cosmetic, the present inventors prepared eyelash cosmetics by changing an amount of a wax to be blended variously, and evaluation was performed according to the aforementioned evaluation criteria. The following Table 2 shows a. . . 11

Light isoparaffin	To 100	To 100	To 100	To 100	To 100	To 100
Decamethylcyclopentasiloxane	20.0	20.0	20.0	20.0	20.0	20.0
Microcrystalline wax	--	3.0	11.0	24.0	29.0	35.0
Liquid paraffin	10.0	--	--	--	--	--
Trimethylsiloxysilicic acid	15.0	15.0	15.0	15.0	15.0	15.0
Hollow powder (MFL-50SCA, specific gravity 0.29)	4.0	4.0	4.0	4.0	4.0	4.0
Black iron oxide	5.0	5.0	5.0	5.0	5.0	5.0

Dextrin fatty acid ester. . .

DETD As shown in the Table 2, in Test Examples 7 to 10 in which a blending amount of a wax was 3.0 to 29.0% by mass, an eyelash cosmetic excellent in all of a volume effect, a curling effect, a. . . was obtained. On the other hand, in Test Example 6 in which liquid paraffin was blended in place of a wax, a volume effect was not obtained, and finishing was inferior. In addition, in Test Example 11 in which a wax was blended at 35.0% by mass, finishing was deteriorated.

DETD From the foregoing results, it is preferable that an amount of a wax to be blended in the eyelash cosmetic of the present invention is around 1 to 30% by mass.

DETD Blending Amount of Resin

DETD Subsequently, in order to study an amount of a resin to be blended in an eyelash cosmetic, the present inventors prepared eyelash cosmetics by changing a blending amount of a resin variously, and evaluation was performed according to the aforementioned evaluation criteria. The following Table 3 shows a blending composition of. . . 17

Light isoparaffin	To 100	To 100	To 100	To 100	To 100	To 100
Decamethylcyclopentasiloxane	20.0	20.0	20.0	20.0	24.0	30.0
Microcrystalline wax	20.0	17.0	17.0	17.0	17.0	17.0
Hydrogenated polybutene	5.0	--	--	--	--	--
Trimethylsiloxysilicic acid	--	0.2	11.0	19.0	24.0	30.0
Hollow powder (MFL-50SCA, specific gravity 0.29)	4.0	4.0	4.0	4.0	4.0	4.0
Black iron oxide	5.0	5.0	5.0	5.0	5.0	5.0

Dextrin fatty acid ester. . .

DETD As shown in the Table 3, in Test Examples 13 to 16 in which a blending amount of a resin was 0.2 to 30.0% by mass, an eyelash cosmetic excellent in all of a volume effect, a curling effect, a. . . was obtained. On the other hand, in Test Example 12 in which hydrogenated polybutene was blended in place of a resin, a curl retaining effect was not obtained. In addition, in Test Example 17 in which a resin was blended at 30.0% by mass, finishing was deteriorated.

DETD From the foregoing results, it is preferable that an amount of a resin to be blended in the eyelash cosmetic of the present invention is around 0.1 to 25% by mass.

DETD Blending Amount of Hollow Powder

DETD Subsequently, in order to study an amount of a hollow powder to be blended in an eyelash cosmetic, the present inventors prepared eyelash cosmetics by changing a blending amount of a hollow powder variously, and evaluation was performed according to the aforementioned evaluation criteria. The following Table 4 shows a blending composition of. . . 19 20 21 22

Light isoparaffin	To 100	To 100	To 100	To 100	To 100
Decamethyl-cyclopentasiloxane	20.0	20.0	20.0	20.0	20.0
Microcrystalline wax	3.0	17.0	17.0	17.0	17.0
Trimethylsiloxysilicic acid	3.0	15.0	15.0	15.0	15.0
Hollow powder (MFL-50SCA, specific gravity 0.29)	0.1	2.0	9.0	14.0	22.0
Black iron oxide	5.0	5.0	5.0	5.0	5.0
Dextrin fatty acid ester	13.0	16.0	15.0. . .		

DETD As shown in the Table 4, in Test Examples 18 to 21 in which a blending amount of a hollow powder was 0.1 to 14% by mass, an eyelash cosmetic excellent in all of a volume effect, a curling effect, a curl retaining effect, and finishing was obtained. On the other hand, in Test Example 22 in which a hollow powder was blended at 22.0% by mass, a volume effect, a curling effect, a curl retaining effect, and finishing were deteriorated.

DETD From the foregoing results, it is preferable that an amount of a hollow powder to be blended in the eyelash cosmetic of the present invention is around 0.01 to 20% by mass.

DETD . . . 24 25 26 27

Light isoparaffin	To 100	To 100	To 100	To 100	To 100
Decamethyl-cyclopentasiloxane	20.0	20.0	20.0	20.0	20.0
Microcrystalline wax	17.0	17.0	17.0	17.0	17.0
Trimethylsiloxysilicic acid	15.0	15.0	15.0	15.0	15.0
Hollow powder (MFL-50SCA, specific gravity 0.29)	4.0	4.0	4.0	4.0	4.0
Black iron oxide	0.2	5.0	14.0	25.0	35.0
Dextrin fatty acid ester	15.0	13.0	10.0. . .		

DETD Cubic Volume Ratio of a Wax and a Resin to a Hollow Powder

DETD . . . blending amount of various components in detail and, for example, it was seen that although the same amount of a hollow powder is blended, the effect is different depending on a kind of a hollow powder to be blended, in some cases. And from this, the present inventors thought that the effect of the present invention. . . depend on a blending amount of various components, paid an attention to a ratio of a cubic volume of a wax and a resin, and a cubic volume of a hollow powder to be blended, and studied a relationship with the effect.

DETD In order to study a preferable cubic volume ratio of a wax and a resin, to a hollow powder in an eyelash cosmetic, the present inventors prepared eyelash cosmetics in which a cubic volume ratio of a wax and a resin, to a hollow powder was variously changed, by appropriately adjusting blending amounts of a wax, a resin, and a hollow powder, and evaluation was performed according to the aforementioned evaluation criteria. As a hollow powder, two kinds of hollow powders having a specific gravity of 0.20 and 0.03,

respectively, were used to perform the similar test. In addition, regarding a wax and a resin, calculation was performed using a specific gravity of 1.0. The following Tables 6 and 7 show a blending composition of. . . To 100 To 100 To 100 To 100 To 100 To 100

Decamethylcyclopentasiloxane	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Microcrystalline wax	2.0	3.0	10.0	30.0	2.0	10.0	10.0	30.0	
Polyethylene wax	--	--	10.0	10.0	5.0	5.0	10.0		
Trimethylsiloxysilicic acid	0.5	2.0	5.0	10.0	5.0	10.0	10.0		
Hollow powder	10.0	10.0	5.0	2.0	0.1	0.2	0.05	0.05	
(MFL-100SCA, specific gravity 0.20)									
Black iron oxide	5.0	5.0	5.0	5.0	1.0	5.0	2.0	5.0	
Dextrin fatty acid ester	10.0	5.0	5.0	5.0	20.0	10.0	10.0	5.0	
Cubic volume of wax + resin (cm.sup.3)	2.5	5.0	25.0	50.0	2.5	20.0	25.0	50.0	
Cubic volume of hollow powder (cm.sup.3)	50.0	50.0	25.0	10.0	0.5	1.0	0.25	0.25	
Wax + resin:hollow powder (cubic volume ratio)	1:20	1:10	1:1	1:0.2	1:0.2	1:0.05	1:0.01	1:0.005	
Hardness	50	90	100	120	130	50	100	120	
Specific gravity (g/cm.sup.3). . .									

DETD . . . To 100 To 100 To 100 To 100 To 100 To 100

Decamethylcyclopentasiloxane	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Microcrystalline wax	2.0	3.0	10.0	30.0	2.0	10.0	20.0	30.0	
Polyethylene wax	--	--	10.0	10.0	5.0	5.0	10.0		
Trimethylsiloxysilicic acid	0.5	2.0	5.0	10.0	5.0	10.0	10.0		
Hollow powder	1.5	1.5	0.75	0.3	0.015	0.03	0.012	0.0075	
(091DE40d30: specific gravity 0.03)									
Black iron oxide	5.0	5.0	5.0	5.0	1.0	5.0	5.0	5.0	
Dextrin fatty acid ester	10.0	5.0	5.0	5.0	20.0	10.0	5.0	5.0	
Cubic volume of wax + resin (cm.sup.3)	2.5	5.0	25.0	50.0	2.5	20.0	40.0	50.0	
Cubic volume of hollow powder (cm.sup.3)	50.0	50.0	25.0	10.0	0.5	1.0	0.4	0.25	
Wax + resin:hollow powder (cubic volume ratio)	1:20	1:10	1:1	1:0.2	1:0.2	1:0.05	1:0.01	1:0.005	
Hardness	60	70	80	100	130	100	60	100	
Specific gravity (g/cm.sup.3). . .									

DETD As shown in Table 6, when a hollow powder having a specific gravity of 0.2 is used, in Test Examples 29 to 34 in which a ratio of a total cubic volume of a wax and a resin, and a cubic volume of a hollow powder was adjusted to be 1:10 to 1:0.01, volume, and finishing are excellent and, at the same time, a curling effect,. . . hand, in Test Example 28 in which

the cubic volume ratio was adjusted to be 1:20, since amounts of a wax and a resin were relatively small, and an amount of adhesion to an eyelash is decreased, a curling effect, and a volume effect. . . in Test Example 35 in which the cubic volume ratio was adjusted to be 1:0.005, since an amount of a hollow powder was relatively small, and a mascara itself was too heavy, a curling effect, and a curl retaining effect are not. . .

DETD Further, as shown in the Table 7, also when a hollow powder having a specific gravity of 0.03 is used, it was seen that, in Test Examples 37 to 42 in which a ratio of a total cubic volume of a wax and a resin, and a cubic volume of a hollow powder is 1:10 to 1:0.01, an eyelash cosmetic excellent in various effects is obtained, like the results of Table 6.

DETD From the foregoing results, it is thought that the effect of blending a wax, a resin and a hollow powder in the eyelash cosmetic of the present invention is associated with a cubic volume ratio of various components rather than. . . a blending amount of various components, and it is preferable that the ratio of a cubic total volume of a wax and a resin, and a cubic volume of a hollow powder is in a range of 1:10 to 1:0.01.

DETD

	. . . Butylene glycol	1.5%
	Purified water	remainder
C:	Beeswax	6.5%
	Liquid paraffin	3.5%
	Carbon black	1.5%
D:	Stearic acid	1.0%
	Carnauba wax	5.0%
E:	Morpholine	0.4%
F:	Vinyl acetate emulsion	30.0%
H:	Hollow powder (GMH-0850)	2.0%
	Antiseptic	quantum sufficit

(Process)

(1) Bentonite and sodium carboxymethylcellulose were mixed in the dry state, and the. . .

DETD

Carnauba wax	7.0%
Beeswax	2.0%
Microcrystalline wax	20.0%
Lanolin	0.4%
Liquid polyisobutylene	remainder
Polyvinyl pyrrolidone	1.0%
Organic modified bentonite	3.0%
Black iron oxide	10%
Hollow powder (MFL-50SCA)	10.0%
Antiseptic	quantum sufficit

(Process)

DETD . . . bentonite was added to a part of liquid polyisobutylene, and this was dispersed through a colloid mill, and gelled. Then, waxes and an antiseptic were mixed, the mixture was heated to melt it, a pigment was added, this was cooled, kneaded. . .

DETD

(Oily phase)	
Light isoparaffin (Isopar E)	remainder
Organic modified clay mineral	3.0%
Polyisoprene resin	10.0%
Hollow powder (GMH-0850)	2.0%
Carnauba wax	0.1%

	Fragrance	quantum sufficit
	(Aqueous phase)	
	Water	41.0%
	Water-swelling clay mineral	3.0%
	Propylene glycol	5.0%
	Carbon black	10.0%
	Antiseptic	quantum. . .

DETD Oily phase: A part of light isoparaffin was heated to 90° C., a polyisoprene resin was dissolved and, thereafter, a remaining light isoparaffin resin and other oil phase components were mixed, and the mixture was cooled as it was while stirring.

DETD

(Oily phase)		
Light isoparaffin		7.0%
Methylpolysiloxane		2.0%
Decamethylcyclopentasiloxane		10.0%
Microcrystalline wax		0.1%
Trimethylsiloxysilicic acid		10.0%
Methylpolysiloxane emulsion		quantum sufficit
Polyethylene glycol dioleate		2.0%
Diglyceryl diisostearate		2.0%
DL-α-tocopherol acetate	0.1%	
Dimethyldistearylammonium hectorite		6.0%
Hollow powder (MFL-50SCA)		2.0%
(Aqueous phase)		
1,3-Butylene glycol		4.0%
Sodium bicarbonate		0.2%
Paraoxybenzoic acid ester		quantum sufficit
Sodium dehydroacetate		quantum sufficit
Black. . .		

DETD . . . iron oxide 10.0%

(Oily phase)		
Cyclomethicone		15.0%
Trimethylsiloxysilicic acid		15.0%
Jojoba ester		3.0%
Glyceryl stearate		1.2%
Stearic acid		2.1%
Phenyltrimethicone		0.4%
Di(phytosteryl/octyldodecyl) lauroylglutamate		0.1%
Bentonite		1.0%
Tocopherol acetate		0.1%
Batyl alcohol		0.7%
Hollow powder (GMH-0850)		1.0%
Fragrance		quantum sufficit

(Process)

DETD	. . . Polyacrylic acid ester emulsion (solid part)	8.0%
(6)	POE (20) sorbitan monostearate	1.0%
(7)	Isopropanol	2.0%
(8)	Bentonite	0.5%
(9)	Black iron oxide	8.0%
(10)	Hollow powder (GMH-0850)	2.0%
(11)	Ethyl paraben	quantum sufficit
(12)	Ion-exchanged water	remainder
(13)	Sodium hydroxide	0.3%
(14)	Fragrance	quantum sufficit

(Process)

CLM What is claimed is:

1. An eyelash cosmetic comprising: (a) a wax and/or (b) a resin, and (c) a hollow powder.

2. The eyelash cosmetic according to claim 1, wherein the eyelash cosmetic comprising: 0.1 to 55% by mass of (a) a wax and/or (b) a resin, and 0.01 to 20% by mass of (c) a hollow powder.

3. The eyelash cosmetic according to claim 1, wherein a ratio of cubic volume of (a) a wax and/or (b) a resin to cubic volume of (c) a hollow powder is 1:10 to 1:0.01.

. . . The eyelash cosmetic according to claim 2, wherein the eyelash cosmetic comprising: 1 to 30% by mass of (a) a wax, 0.1 to 25% by mass of (b) a resin, and 0.01 to 20% by mass of (c) a hollow powder.

L1 ANSWER 5 OF 13 USPATFULL on STN

AB The present invention encompasses a golf ball having a diameter and being comprised of a core and a cover, wherein the core is further comprised of a fluid mass at the center of the ball, and a first, solid, non-wound mantle layer surrounding the fluid mass, wherein the first mantle layer comprises a copolymer or terpolymer of ethylene and an α,β-unsaturated carboxylic acid, the acid being neutralized at least 80% by a salt of an organic acid, a cation source, or a suitable base of the organic acid, and wherein the cover comprises polyurethane, polyurea, or a polyurea/polyurethane hybrid. Preferably, the rate of spin decay is at least 10% of an initial spin rate of the golf ball over the entire ball flight.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2006:167585 USPATFULL

TITLE: Multilayer golf ball

INVENTOR(S): Sullivan, Michael J., Barrington, RI, UNITED STATES
Ladd, Derek A., Acushnet, MA, UNITED STATES
Hebert, Edmund A., Fairhaven, MA, UNITED STATES
Boehm, Herbert C., Norwell, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2006142096	A1	20060629
APPLICATION INFO.:	US 2006-353563	A1	20060214 (11)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 2003-670514, filed on 26 Sep 2003, GRANTED, Pat. No. US 7041007 Continuation-in-part of Ser. No. US 2000-482336, filed on 14 Jan 2000, GRANTED, Pat. No. US 6635133 Division of Ser. No. US 1999-312480, filed on 17 May 1999, GRANTED, Pat. No. US 6575846 Continuation of Ser. No. US 1997-902351, filed on 29 Jul 1997, ABANDONED Continuation-in-part of Ser. No. US 1996-615346, filed on 11 Mar 1996, GRANTED, Pat. No. US 5683312

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: ACUSHNET COMPANY, 333 BRIDGE STREET, P. O. BOX 965, FAIRHAVEN, MA, 02719, US

NUMBER OF CLAIMS: 38

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 17 Drawing Page(s)

LINE COUNT: 1773

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . the first mantle layer comprises dynamically vulcanized thermoplastic elastomer, functionalized styrene-butadiene elastomer, thermoplastic polyurethane, thermoplastic polyetherester or polyetheramide, thermoplastic ionomer resin, thermoplastic polyester, metallocene polymer or blends thereof. In another embodiment, the cover comprises an inner cover layer and a thin. . .

SUMM . . . and wherein the cover comprises material selected from the

group consisting of polyether and polyester thermoplastic urethane, thermoset polyurethane, ionomer resins, low modulus ionomers, high modulus ionomers and blends thereof. In one embodiment, the cover comprises a thermoset polyurethane.

SUMM . . . the first mantle layer comprises dynamically vulcanized thermoplastic elastomer, functionalized styrene-butadiene elastomer, thermoplastic polyurethane, thermoplastic polyetherester or polyetheramide, thermoplastic ionomer resin, thermoplastic polyester, metallocene polymer or blends thereof. In another embodiment, the cover comprises an inner cover layer and a thin. . .

SUMM . . . methyl-acrylate with butadiene and styrene, acrylonitrile styrene copolymers, polyether-ester, polyether-amide, polyurethane, propylene/ethylene-propylene-diene rubber, styrene-butadiene elastomers, metallocene polymers, polyetheresters, polyetheramides, ionomer resins, polyesters, and blends thereof.

SUMM . . . the first mantle layer comprises dynamically vulcanized thermoplastic elastomer, functionalized styrene-butadiene elastomer, thermoplastic polyurethane, thermoplastic polyetherester or polyetheramide, thermoplastic ionomer resin, thermoplastic polyester, metallocene polymer or blends thereof. In another embodiment, the cover comprises an inner cover layer and a thin. . .

DETD . . . or more additional core layers disposed thereon. At least a portion of the core, typically the center, is solid, semi-solid, hollow, powder-filled or fluid-filled, preferably fluid-filled. As used herein, the term "fluid" means a gas, liquid, gel, paste, or the like, or. . .

DETD . . . 11 can be formed from mixtures or blends of zinc, magnesium, calcium, potassium, lithium and/or sodium ionic copolymers. The SURLYN® resins for use in the cover 11 are ionic copolymers in which sodium, lithium or zinc salts are the reaction product. . .

DETD (1) Vinyl resins such as those formed by the polymerization of vinyl chloride, or by the copolymerization of vinyl chloride with vinyl acetate,. . .

DETD (6) Acrylic resins and blends of these resins with poly vinyl chloride, elastomers, and the like;

DETD (8) Polyphenylene oxide resins, or blends of polyphenylene oxide with high impact polystyrene as sold under the trademark "NORYL®" by General Electric Company of. . .

DETD . . . hexane-1 based homopolymers and copolymers including functional monomers such as acrylic and methacrylic acid and fully or partially neutralized ionomer resins and their blends, methyl acrylate, methyl methacrylate homopolymers and copolymers, imidized, amino group containing polymers, polycarbonate, reinforced polyamides, polyphenylene oxide,. . .

DETD . . . of the invention include castable thermoplastic or thermoset polyurethanes, cationic and anionic urethane ionomers and urethane epoxies, polyurethane/polyurea ionomers, epoxy resins, polyethylenes, polyamides and polyesters, polycarbonates, polyacrylin, and mixtures thereof. Examples of suitable urethane ionomers are disclosed in U.S. Pat. No.. . .

DETD . . . The matrix material may be a thermoset or a thermoplastic polymer. Preferred thermoset polymeric materials are, for example, unsaturated polyester resins, vinyl esters, epoxy resins, phenolic resins, polyurethanes, polyurea, polyimide resins, and polybutadiene resins. Preferred thermoplastics are, for example, polyethylene, polystyrene, polypropylene, thermoplastic polyesters, acrylonitrile butadiene styrene (ABS), acetal, polyamides including semicrystalline polyamide, polycarbonate (PC), shape memory polymers, polyvinyl chloride (PVC), polyurethane, trans-polybutadiene, liquid crystalline polymers, polyether ketone (PEEK), bio(maleimide), and polysulfone resins .

DETD . . . matrix material can also be a silicone material, such as a

silicone polymer, a silicone elastomer, a silicone rubber, silicone resins, or a low molecular weight silicone fluid, thermoplastic silicone urethane copolymers and variations, and the likes.

DETD . . . first mantle layer 22 comprises dynamically vulcanized thermoplastic elastomer; functionalized styrene-butadiene elastomer; thermoplastic polyurethane; thermoplastic polyetherester or polyetheramide; thermoplastic ionomer resin; fluoro-polymers, such as perfluoroalkylenes (e.g., polytetrafluoroethylene, polyhexafluoropropylene), and functionalized fluoropolymer resins that are sulfonated, carboxylated, epoxidized, maleated, amined or hydroxylized as disclosed in U.S. Pat. No. 5,962,140, the entirety of which. . .

DETD . . . material. For example, suitable metallocene polymers include foams of thermoplastic elastomers based on metallocene single-site catalyst-based foams. Such metallocene-based foam resins are commercially available from Sentinel Products of Hyannis, Mass.

DETD . . . 3533, PEBAX® 4033, PEBAX® 5533, PEBAX® 6333, and PEBAX® 7033 which are available from Atofina, Philadelphia, Pa. Suitable thermoplastic ionomer resins include any number of olefinic based ionomers including SURLYN® and IOTEK®, which are commercially available from DuPont and Exxon, respectively.. . .

DETD . . . and gels comprised of copolymer rubber based materials such a styrene-butadiene-styrene rubber and paraffinic and/or naphthenic oil; or melts including waxes and hot melts. Hot-melts are materials which at or about normal room temperatures are solid but at elevated temperatures become. . . system which combine to form a solid. Examples of suitable reactive liquids are silicate gels, agar gels, peroxide cured polyester resins, two part epoxy resin systems and peroxide cured liquid polybutadiene rubber compositions. It is understood by one skilled in the art that other reactive. . .

DETD A preferred adhesive for use with polybutadiene cups 30 is an epoxy, formed by blending low viscosity liquid resins, and formulated to be flexible in its cured state. A suitable epoxy is formed by mixing an approximately 1:1 volume ratio of about 83 parts by weight of AB-82 hardener into 100 parts by weight of Epoxy Resin #1028, both of which are sold by RBC Industries, Inc. In its liquid state, the epoxy is ideal for use. . .

L1 ANSWER 6 OF 13 USPATFULL on STN

AB This invention relates to cosmetic, in particular, relates to improvements of retaining performance and film-line feeling of makeup cosmetic for lips, eyelashes and skin, makeup cosmetic, and improvements of emulsion stability and dispersibility of powder in water-in-oil emulsion cosmetic. This invention is to provide cosmetic comprising a copolymer comprising specific acrylic acid monomer (A), specific polyoxyalkylene monomer (B) and specific organopolysiloxane monomer (C) as constituting monomers, wherein the content of monomer (A) is 20% by mass or more relative to the total amount of the constituting monomers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2005:311994 USPATFULL			
TITLE:	Cosmetic			
INVENTOR(S):	Yoshida, Kunihiko, Yokohama-shi, JAPAN Kakoki, Hiroyuki, Yokohama-shi, JAPAN Mori, Atsumi, Yokohama-shi, JAPAN			
PATENT ASSIGNEE(S):	Shiseido Co., Ltd., Chuo-ku, JAPAN, 104-8010 (non-U.S. corporation)			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2005271611	A1	20051208	
APPLICATION INFO.:	US 2005-147744	A1	20050608	(11)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2004-170207	20040608
	JP 2004-170209	20040608
	JP 2004-170210	20040608
	JP 2004-170211	20040608

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: RANKIN, HILL, PORTER & CLARK, LLP, 925 EUCLID AVENUE, SUITE 700, CLEVELAND, OH, 44115-1405, US
NUMBER OF CLAIMS: 22
EXEMPLARY CLAIM: 1
LINE COUNT: 2766
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM Conventional oil-based lipsticks have been composed of various oils, waxes and color materials with good luster upon application on the lips, while it was a problem that the makeup retaining. . .

SUMM . . . that they were readily removed by water, sweat and tears and the like. While solid oils such as solid paraffin, waxes and lanolin derivatives have been frequently blended, the blended component is excellent in water-resistance, but it is readily dissolved in. . .

SUMM For solving the problems described above, makeup cosmetics comprising blended organic silicone resins as the film-forming component have been developed in recent years (for example, see JP-A Nos. 61-18708, 61-65809 and 61-161211). Since the organic silicone resin is quite insoluble in the skin fat and oily fractions that are usually blended in cosmetics while the resin forms a tough film after drying, the cosmetics for eyelashes being excellent in both of the curling effect and makeup retaining performance may be obtained. However, the although cosmetics for eyelashes using the organic silicone resin has an excellent function with respect to the curling effect and makeup retaining performance to some extent, the feeling of use was of problem since the cosmetic gave a remarkable film-like feeling are to the organic silicone resin as the film-forming component. When the amount of blending of the organic silicone resin is reduced, on the other hand, the curling effect and makeup retaining effect cannot be sufficiently obtained although the film-like. . .

SUMM . . . the cloths, in the development of the makeup cosmetics such as foundations. In various efforts for this purpose, a silicone resin is blended, for example, in the makeup cosmetics. Since the silicone resin is quite insoluble in water and oily components such as skin fat and forms a tough coating film after drying, blending the resin affords the makeup cosmetics excellent in makeup retaining performance. However, the feeling of use was not so good due to remarkable film-like feeling ascribed to the silicone resin film, although the makeup cosmetics using the silicone resin as the film-forming component has an excellent function with respect to makeup retaining performance.

SUMM . . . period of time, it was quite difficult to stabilize the formulation. While the formulation may be stabilized by blending a wax in the oil phase as the outer phase, the preparation is still unstable since the wax is melted or softened at high temperatures. Therefore, the formulation is not sufficiently stable with additional problems in use such. . .

SUMM . . . of the copolymer and volatile silicone oil and/or hydrocarbon oil in the outer phase, and water and a film-forming emulsion resin in the inner phase.

SUMM . . . the copolymer and a volatile silicone oil and/or hydrocarbon oil in the inner phase, and water and a film-forming emulsion resin in the outer phase.

SUMM Preferably, the eyelashes makeup cosmetic is an oil-based eyelashes makeup cosmetic comprises the copolymer and a wax.

SUMM Preferably, the oil-based eyelashes makeup cosmetic comprises 1 to 30%

of the polymer, a wax, a volatile silicone oil and/or hydrocarbon oil and a viscosity improving agent.

DETD Preferably, an emulsion resin having film-forming ability may be blended in the aqueous phase as the inner or outer phase in the water-in-oil or oil-in-water eyelashes makeup cosmetic according to the invention. The emulsion resin having film-forming ability used in the invention may be obtained, for example, by soap-free polymerization taking advantage of a reactive emulsifying agent, heterogeneous polymerization in water containing no emulsifying agent, or polymerization using an aqueous resin solution as an emulsifying agent in which a mixture comprising polymerizable monomers is polymerized as an emulsion in the presence. . .

DETD Specific examples of the monomer constituting the emulsion resin having film-forming ability include acrylic and methacrylic monomers such as methyl(meth)acrylate, ethyl.(meth)acrylate, propyl(meth)acrylate, butyl(meth)acrylate, isobutyl(meth)acrylate, t-butyl(meth)acrylate, benzyl(meth)acrylate, hexyl(meth)acrylate, octyl(meth)acrylate, 2-ethylhexyl(meth)acrylate,. . .

DETD One or more of the emulsion resins having film-forming ability may be selected for blending with the water-in-oil or oil-in-water eyelashes makeup cosmetic according to the invention. The amount of blending of the emulsion resin having the film-forming ability is preferably 1.0 to 30.0% by mass, more preferably 5.0 to 20.0% by mass, relative to. . . amount of the eyelashes makeup cosmetic. Makeup retaining performance may be poor when the amount of blending of the emulsion resin having film-forming ability is too small, while finish of makeup may be rather stiff when the amount is too large.

DETD The oil-based eyelashes makeup cosmetic according to the invention comprises the copolymer and wax. The wax as used in the invention means solid oils at room temperature, and examples thereof include beeswax, candelilla wax, cotton wax, carnauba wax, batberry wax, ibota wax, spermaceti wax, montan wax, rice bran wax, lanolin, kapok wax, vegetable wax, lanolin acetate, liquid lanolin, sugar cane wax, lanolin fatty acid isopropyl, hexyl laurate, reduced lanolin, jojoba wax, rigid lanolin, shellac wax, bees wax, microcrystalline wax , paraffin wax, POE lanolin alcohol ether, POE lanolin alcohol acetate, POE cholesterol ether, lanolin fatty acid polyethyleneglycol, fatty acid glyceride, rigid castor. . .

DETD One or more of the waxes may be selected for blending with the oil-based eyelashes makeup cosmetic according to the invention. The amount of blending of the wax is preferably 0.1 to 25% by mass, more preferably 1.0 to 20.0% by mass, relative to the total amount of the eyelashes makeup cosmetic. A volume effect may be impaired when the amount of blending of the wax is too small, while finish of makeup may be poor when the amount is too large.

DETD Preferably, a hollow powder is blended to the oil-based eyelashes makeup cosmetic according to the invention. Examples of the hollow powder include a hollow resin powder and a hollow inorganic powder.

DETD Basically, the hollow resin powder is prepared by allowing a thermoplastic resin, which contains a volatile foaming agent that is vaporized mainly by heating, to swell or foam by heating. Examples of the resin that forms an outer shell of the hollow foaming resin powder include homopolymers or copolymers comprising one or more monomer selected from vinyl monomers such as vinyl chloride, vinyl acetate. . . acrylic acid esters, methacrylic acid, methacrylic acid esters, acrylonitrile and methacrylonitrile; and styrene, vinylidene chloride, divinylbenzene and ethyleneglycol dimethacrylate. The resin is preferably a copolymer comprising two or more monomers selected from acrylic acid or methacrylic acid or esters thereof, vinylidene. . .

DETD The hollow resin powder is produced by allowing a thermoplastic resin powder containing a volatile foaming agent to foam by heating, for example, as disclosed in JP-B No. 59-53290. The hollow resin powder is commercially available, and examples thereof include Matsumoto microsphere MFL series [MFL-50STI (particle diameter 10 to 30 μm, absolute. . .

DETD The surface of the hollow powder may be coated with an inorganic substance. As disclosed in JP-A No. 4-9319, the thermoplastic resin including the volatile foaming agent is mixed with the inorganic powder before foaming or during foaming, and the mixture is heated to obtain the hollow powder coated with the inorganic powder. Otherwise, the hollow powder is coated with the inorganic powder by a wet method, in which a dispersion solution of the inorganic powder in water or in an organic solvent and the hollow resin powder are mixed followed by drying, or the dispersion solution of the inorganic powder is sprayed onto the hollow resin powder followed by drying, or the hollow powder and inorganic powder are complexified by a physical force such as a high impact force.

DETD While the inorganic powder to be coated on the surface of the hollow resin powder is not particularly restricted, it is selected depending on desired effects. Examples of the inorganic powder include talc, sericite,. . . the average particle diameter is not restricted, it is preferably 0.001 to 20 μm. The mass ratio between the hollow resin powder and inorganic powder is preferably 5:95 to 50:50.

DETD The hollow powder used in the invention is preferably the hollow resin powder. The resin forming the outer shell is preferably resins of vinyl chloride, vinylidene chloride and methyl methacrylate, while hydrocarbon gases are favorably used as the volatile liquid foaming agents.. . .

DETD One or more of the hollow powder may be selected for blending with the oil-based eyelashes makeup cosmetic of the invention. The amount of blending of the hollow powder is preferably 0.001 to 10.0% by mass, more preferably 0.1 to 8.0% by mass, relative to the total amount of the eyelashes makeup cosmetic. The curling effect and volume effect are lowered when the amount of blending of the hollow powder is too small, while finish of makeup becomes poor when the amount is too large.

DETD . . . -- -- 10.0 -- --

Trimethylsiloxy Silicate -- -- -- -- -- -- -- -- 10.0 --

Non-aqueous Polymer Emulsion*.sup.1 -- -- -- -- -- -- -- -- -- 10.0

Microcrystalline Wax 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0

Paraffin 11.0 11.0 11.0 11.0 11.0 11.0 11.0 11.0 11.0 11.0

Candelilla wax 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0

Decamethyl Cyclopentasiloxane Balance Balance Balance Balance Balance Balance Balance Balance Balance Balance

Polyoxyethylene-modified Silicone 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0

Methylphenyl. . .

DETD . . . . 5.0 65.0 -- -- -- -- -- -- -- -- 10.0 --

Copolymer 1-11 40.0 5.0 55.0 -- -- -- -- -- -- -- -- -- 10.0

Microcrystalline Wax 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0

Paraffin 11.0 11.0 11.0 11.0 11.0 11.0 11.0 11.0 11.0 11.0

Candelilla wax 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0

Decamethyl Cyclopentasiloxane					Balance	Balance	Balance	Balance	Balance
Polyoxyethylene-modified Silicone					3.0	3.0	3.0	3.0	3.0
DETD									

	Test Example							
				1-13	1-14	1-15	1-1	1-16	1-17	1-18	1-19
Copolymer 1-1	--	0.1	1.0	10.0	15.0	20.0	25.0	30.0
Microcrystalline Wax	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Paraffin	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Candelilla wax	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Decamethyl Cyclopentasiloxane	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance
Polyoxyethylene-modified Silicone	3.0	3.0	.	.						
DETD										

Lipstick	% by Mass
Microcrystalline Wax	1.0
Paraffin	11.0
Candellila Wax	3.0
Decamethyl Cyclopentasiloxane (y = 5 in Formula (5))	Balance
Dimethyl Polysiloxane (X = 2 in Formula (4)	20.0
Alkyl-modified silicone (R.sup.9 =. . .	
DETD	

Lipstick	% by Mass
Microcrystalline Wax	0.5
Candellila Wax	1.0
Synthetic Wax (FNP-0090, manufactured by Nippon Seiro)	8.0
Decamethyl Cyclopentasiloxane	Balance
Dimethyl Polysiloxane (X = 2 in Formula (4))	20.0
Alkyl-modified Silicone (R.sup.9 = C.sub.8H.sub.17. . .	
DETD	

Lipstick	% by Mass
Microcrystalline Wax	2.0
Paraffin	1.0
Polyethylene Wax (Average Molecular Weight 500)	10.0
Carnauba Wax	1.0
Decamethyl Cyclopentasiloxane	Balance
Dimethyl Polysiloxane (X = 2 in Formula (4))	30.0
Copolymer 1-13	10.0
Polyoxyethylene-modified Silicone	3.0
Methylphenyl Polysiloxane	5.0
Fluorine-modified Dimethyl Silicone	5.0
(R.sup.10. . .	
DETD	

Emulsified Rouge	% by Mass
Microcrystalline Wax	1.0
Paraffin	12.0
Candellila Wax	2.0
Decamethyl Cyclopentasiloxane	Balance
Polymer 1-13	10.0
Polyoxyethylene-modified Silicone	3.0
Methylphenyl Polysiloxane	5.0
Tri(Hydrogenated Rosin-Isostearic Acid)Glyceryl	5.0
Silica (Aerosil R972:. . .	

DETD

Liquid Rouge			% by Mass
Microcrystalline Wax			0.2
Paraffin			2.0
Decamethyl Cyclopentasiloxane			Balance
Copolymer 1-13			15.0
Polyoxyethylene-modified Silicone			3.0
Methylphenyl Polysiloxane			5.0
Fluorine-modified Methylphenyl Silicone (R.sup.11 = Ph, R.sup.12 = CH.sub.3, R.sup.13 = C.sub.8F.sub.17,. . .			20.0
DETD . . . 2-1	15.0	--	--
Hydroxyethyl Cellulose	--	15.0	--
Trimethylsiloxy Silicate	--	--	15.0
Light Isoparaffin	Balance	Balance	Balance
Decamethyl Cyclopentasiloxane	20.0	20.0	20.0
Microcrystalline Wax	17.0	17.0	17.0
Iron Oxide Black	5.0	5.0	5.0
Dextrin Fatty Acid Ester	11.0	11.0	11.0
(1) Curling Effect	A	C	A
(2) Makeup. . .			

DETD

Oil-based Mascara	% by Mass
Light Isoparaffin	Balance
Decamethyl Cyclopentasiloxane	20.0
Microcrystalline Wax	17.0
Copolymer 2-13	15.0
Iron Oxide Black	2.0
Hollow Resin Powder	5.0
Dextrin Fatty Acid Ester	11.0

CLM What is claimed is:

. . . of the copolymer and volatile silicone oil and/or hydrocarbon oil in the outer phase, and water and a film-forming emulsion resin in the inner phase.

. . . the copolymer and a volatile silicone oil and/or hydrocarbon oil in the inner phase, and water and a film-forming emulsion resin in the outer phase.

. . . cosmetic according to claim 6, wherein said eyelashes makeup is an oil-based eyelashes makeup cosmetic comprises the copolymer and a wax.

. . . makeup cosmetic according to claim 11, wherein said oil-based

eyelashes makeup cosmetic comprises 1 to 30% of the polymer, a wax, a volatile silicone oil and/or hydrocarbon oil and a viscosity improving agent.

L1 ANSWER 7 OF 13 USPATFULL on STN

AB The present invention encompasses a golf ball having a diameter and being comprised of a core and a cover, wherein the core is further comprised of a fluid mass at the center of the ball, a first mantle layer surrounding the fluid mass and a second, solid, non-wound mantle layer surrounding and abutting the first mantle layer, wherein the first mantle layer comprises a polymer material selected from the group consisting of a thermoset rubber, plastic and thermoplastic elastomeric material and the second mantle layer comprises a polymer material selected from the group consisting of a thermoset rubber material and thermoplastic elastomeric material, and wherein the cover comprises polyurethane, polyurea, or a polyurea/polyurethane hybrid.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2004:120922 USPATFULL

TITLE: Method for making multilayer golf ball

INVENTOR(S): Boehm, Herbert C., Norwell, MA, UNITED STATES
Morgan, William E., Barrington, RI, UNITED STATES
Reid, Walter L., JR., Mattapoisett, MA, UNITED STATES
Pasqua, Samuel A., JR., Tiverton, RI, UNITED STATES
Cavallaro, Christopher, Lakeville, MA, UNITED STATES
Harris, Kevin M., Bedford, MA, UNITED STATES
Dalton, Jeffrey L., North Dartmouth, MA, UNITED STATES
Sullivan, Michael J., Barrington, RI, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004092335	A1	20040513
	US 7041007	B2	20060509
APPLICATION INFO.:	US 2003-670514	A1	20030926 (10)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 2000-482336, filed on 14 Jan 2000, GRANTED, Pat. No. US 6635133 Division of Ser. No. US 1999-312480, filed on 17 May 1999, GRANTED, Pat. No. US 6575846 Continuation of Ser. No. US 1997-902351, filed on 29 Jul 1997, ABANDONED Continuation-in-part of Ser. No. US 1996-615346, filed on 11 Mar 1996, GRANTED, Pat. No. US 5683312

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: SWIDLER BERLIN SHEREFF FRIEDMAN, LLP, 3000 K STREET, NW, BOX IP, WASHINGTON, DC, 20007

NUMBER OF CLAIMS: 60

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 11 Drawing Page(s)

LINE COUNT: 1565

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . the first mantle layer comprises dynamically vulcanized thermoplastic elastomer, functionalized styrene-butadiene elastomer, thermoplastic polyurethane, thermoplastic polyetherester or polyetheramide, thermoplastic ionomer resin, thermoplastic polyester, metallocene polymer or blends thereof. In another embodiment, the cover comprises an inner cover layer and a thin. . .

SUMM . . . and wherein the cover comprises material selected from the group consisting of polyether and polyester thermoplastic urethane, thermoset polyurethane, ionomer resins, low modulus ionomers, high modulus ionomers and blends thereof. In one embodiment, the cover comprises a thermoset polyurethane.

SUMM . . . the first mantle layer comprises dynamically vulcanized thermoplastic elastomer, functionalized styrene-butadiene elastomer,

thermoplastic polyurethane, thermoplastic polyetherester or polyetheramide, thermoplastic ionomer resin, thermoplastic polyester, metallocene polymer or blends thereof. In another embodiment, the cover comprises an inner cover layer and a thin. . .

SUMM . . . methyl-acrylate with butadiene and styrene, acrylonitrile styrene copolymers, polyether-ester, polyether-amide, polyurethane, propylene/ethylene-propylene-diene rubber, styrene-butadiene elastomers, metallocene polymers, polyetheresters, polyetheramides, ionomer resins, polyesters, and blends thereof

SUMM . . . the first mantle layer comprises dynamically vulcanized thermoplastic elastomer, functionalized styrene-butadiene elastomer, thermoplastic polyurethane, thermoplastic polyetherester or polyetheramide, thermoplastic ionomer resin, thermoplastic polyester, metallocene polymer or blends thereof In another embodiment, the cover comprises an inner cover layer and a thin. . .

DETD . . . or more additional core layers disposed thereon. At least a portion of the core, typically the center, is solid, semi-solid, hollow, powder-filled or fluid-filled, preferably fluid-filled. As used herein, the term "fluid" means a gas, liquid, gel, paste, or the like, or. . .

DETD . . . 11 can be formed from mixtures or blends of zinc, magnesium, calcium, potassium, lithium and/or sodium ionic copolymers. The SURLYN® resins for use in the cover 11 are ionic copolymers in which sodium, lithium or zinc salts are the reaction product. . .

DETD [0050] (1) Vinyl resins such as those formed by the polymerization of vinyl chloride, or by the copolymerization of vinyl chloride with vinyl acetate,. . .

DETD [0055] (6) Acrylic resins and blends of these resins with poly vinyl chloride, elastomers, and the like;

DETD [0057] (8) Polyphenylene oxide resins, or blends of polyphenylene oxide with high impact polystyrene as sold under the trademark "NORYL®" by General Electric Company of. . .

DETD . . . 1 based homopolymers and copolymers including functional monomers such as acrylic and methacrylic acid and fully or partially neutralized ionomer resins and their blends, methyl acrylate, methyl methacrylate homopolymers and copolymers, imidized, amino group containing polymers, polycarbonate, reinforced polyamides, polyphenylene oxide,. . .

DETD . . . of the invention include castable thermoplastic or thermoset polyurethanes, cationic and anionic urethane ionomers and urethane epoxies, polyurethane/polyurea ionomers, epoxy resins, polyethylenes, polyamides and polyesters, polycarbonates, polyacrylin, and mixtures thereof. Examples of suitable urethane ionomers are disclosed in U.S. Pat. No.. . .

DETD . . . first mantle layer 22 comprises dynamically vulcanized thermoplastic elastomer; functionalized styrene-butadiene elastomer; thermoplastic polyurethane; thermoplastic polyetherester or polyetheramide; thermoplastic ionomer resin; fluoro-polymers, such as perfluoroalkylenes (e.g., polytetrafluoroethylene, polyhexafluoropropylene), and functionalized fluoropolymer resins that are sulfonated, carboxylated, epoxidized, maleated, amined or hydroxylized as disclosed in U.S. Pat. No. 5,962,140, the entirety of which. . .

DETD . . . material. For example, suitable metallocene polymers include foams of thermoplastic elastomers based on metallocene single-site catalyst-based foams. Such metallocene-based foam resins are commercially available from Sentinel Products of Hyannis, Mass.

DETD . . . 3533, PEBAX® 4033, PEBAX® 5533, PEBAX® 6333, and PEBAX® 7033 which are available from Atofina, Philadelphia, Pa. Suitable thermoplastic ionomer resins include any number of olefinic based ionomers including SURLYN® and IOTEK®, which are commercially available from DuPont and Exxon, respectively.. . .

DETD . . . and gels comprised of copolymer rubber based materials such a

styrene-butadiene-styrene rubber and paraffinic and/or naphthenic oil; or melts including waxes and hot melts. Hot-melts are materials which at or about normal room temperatures are solid but at elevated temperatures become. . . system which combine to form a solid. Examples of suitable reactive liquids are silicate gels, agar gels, peroxide cured polyester resins, two part epoxy resin systems and peroxide cured liquid polybutadiene rubber compositions. It is understood by one skilled in the art that other reactive. . .

DETD [0118] A preferred adhesive for use with polybutadiene cups 30 is an epoxy, formed by blending low viscosity liquid resins, and formulated to be flexible in its cured state. A suitable epoxy is formed by mixing an approximately 1:1 volume ratio of about 83 parts by weight of AB-82 hardener into 100 parts by weight of Epoxy Resin #1028, both of which are sold by RBC Industries, Inc. In its liquid state, the epoxy is ideal for use. . .

CLM What is claimed is:

. . . the first mantle layer comprises dynamically vulcanized thermoplastic elastomer, functionalized styrene-butadiene elastomer, thermoplastic polyurethane, thermoplastic polyetherester or polyetheramide, thermoplastic ionomer resin, thermoplastic polyester, metallocene polymer or blends thereof.

. . . wherein the cover comprises material selected from the group consisting of polyether thermoplastic urethane, polyester thermoplastic urethane, thermoset polyurethane, ionomer resins, low modulus ionomers, high modulus ionomers and blends thereof.

. . . the first mantle layer comprises dynamically vulcanized thermoplastic elastomer, functionalized styrene-butadiene elastomer, thermoplastic polyurethane, thermoplastic polyetherester or polyetheramide, thermoplastic ionomer resin, thermoplastic polyester, metallocene polymer or blends thereof.

. . . methyl-acrylate with butadiene and styrene, acrylonitrile styrene copolymers, polyether-ester, polyether-amide, polyurethane, propylene/ethylene-propylenediene rubber, styrene-butadiene elastomers, metallocene polymers, polyetheresters, polyetheramides, ionomer resins, polyesters, and blends thereof.

. . . the first mantle layer comprises dynamically vulcanized thermoplastic elastomer, functionalized styrene-butadiene elastomer, thermoplastic polyurethane, thermoplastic polyetherester or polyetheramide, thermoplastic ionomer resin, thermoplastic polyester, metallocene polymer or blends thereof.

L1 ANSWER 8 OF 13 USPATFULL on STN

AB The present invention provides a heat developable photosensitive material comprising at least a photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent for silver ions and binder on one surface of a support.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:187764 USPATFULL

TITLE: Heat developable photosensitive material

INVENTOR(S): Yoshioka, Yasuhiro, Kanagawa, JAPAN
Oyamada, Takayoshi, Kanagawa, JAPAN
Okutsu, Eiichi, Kanagawa, JAPAN

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2003129553	A1	20030710	
APPLICATION INFO.:	US 2002-270510	A1	20021016	(10)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2001-321988	20011019

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Yumi Yerks, Apartment #412-North, 2111 Jefferson Davis Highway, Arlington, VA, 22202
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
LINE COUNT: 2072
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM [0105] Any one of natural or synthetic resins may be used as the binder in the photosensitive layer of the heat developable photosensitive material according to the invention, and examples of the resins include gelatin, polyvinyl butyral, polyvinyl acetal, polyvinyl chloride, polyvinyl acetate, cellulose acetate, polyolefine, polyester, polystyrene, polyacrylonitrile, polycarbonate, butylethyl cellulose, methacrylate. . . weight or more relative to the total amount of the binder(s). A copolymer and terpolymer is naturally included in the resins. The total amount of polyvinyl butyral is preferably 50 to 100% by weight, and more preferably 70 to 100% by. . .

SUMM [0123] The surface protective layer may include any adhesion preventing material. Examples of the adhesion preventing layer include wax , liquid paraffin, silica particles, elastomer of block copolymer containing styrene (e.g., styrene-butadiene-styrene and styrene-isoprene-styrene copolymers), cellulose acetate, cellulose acetate butyrate. . .

SUMM . . . and urea-formaldehyde-starch reaction product; and gelatin cured with a curing agent known in the art and cured gelatin as a hollow powder of microcapsule prepared by coacervate curing. Preferable examples of the inorganic compounds available as the matting agent include silicon dioxide,. . .

SUMM . . . binder of the back layer in the invention is colorless and transparent or semi-transparent and examples thereof include natural polymer resins, synthetic polymers or copolymers and other film forming media such as, for example, gelatin, gum arabic, polyvinyl alcohol, hydroxyethyl cellulose,. . . polyvinyl chloride, polymethacrylic acid, styrene-maleic anhydride copolymer, styrene-acrylonitrile copolymer, styrene-butadiene copolymer, polyvinylacetal such as polyvinylformal and polyvinylbutyral, polyester, polyurethane, phenoxy resin, polyvinylidene chloride, polyepoxide, polycarbonate, polyvinyl acetate, cellulose esters and polyamide. The binder may be coated from an aqueous or organic. . .

SUMM . . . film, polyethylene terephthalate film, polyethylene naphthalate film, cellulose nitrate film, cellulose ester film, polyvinyl acetal film, polycarbonate film and related resin materials, and glass, paper and metal. A flexible support such as partially acetylated paper, or paper coated with baryta and/or. . .

DETD [0163] 84.2 g of cellulose acetate butylate (CAB 381-20 made by Eastman Chemical Co.) and 4.5 g of polyester resin (Vitel PE2200B made by Bostic Co.) were added and dissolved into 830 g of MEK while MEK was stired. 0.30. . .

L1 ANSWER 9 OF 13 USPATFULL on STN

AB Methods of making improved electronic systems and circuits boards, and more specifically to methods of making improved electronic systems and circuits boards using heat-resistant composite materials having superior mechanical, thermal, and electrical properties.

ACCESSION NUMBER: 2002:284431 USPATFULL
TITLE: Heat-resistant electronic systems and circuit boards
INVENTOR(S): Li, Chou H., South Pasadena, FL, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002157247	A1	20021031
	US 6938815	B2	20050906
APPLICATION INFO.:	US 2001-892528	A1	20010625 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1998-53741, filed on 2 Apr 1998, GRANTED, Pat. No. US 6286206 Continuation-in-part of Ser. No. US 1997-947308, filed on 8 Oct 1997, GRANTED, Pat. No. US 5937514 Continuation-in-part of Ser. No. US 1997-805535, filed on 25 Feb 1997, GRANTED, Pat. No. US 5932348

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: James A Poulos, III, 9001 Garland Ave., Silver Spring, MD, 20901

NUMBER OF CLAIMS: 43

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 6 Drawing Page(s)

LINE COUNT: 1909

DETD . . . or freezing the liquid mixture or suspension to provide a solidified reinforced composite. The reinforcing elements may be solid or hollow powders, rods, sheets, weaves, or combinations thereof.

DETD . . . occurs in the liquid composite matrix. Further, this non-uniform distribution pattern is carried over during the composite matrix solidification, e.g., resin matrix polymerization in a cast mold or lead-tin composite matrix freezing in a soldered joint.

DETD . . . reinforcing elements suspended or mixed therein. The hard, usually refractory or heat-resistant reinforcing elements are ceramic (or metal) solid or hollow powders, fibers, or more complicated shapes such as special weaved structures. These reinforcing elements improve the creep resistance at temperatures at. . .

DETD . . . various interconnection processes. The new composite is reinforced by suspended or embedded ceramic, intermetallic, metal, or glass reinforcing solid or hollow powders, rods, sheets, weaves, or combinations thereof. The solid reinforcing elements are rigid and heat-resistant, thereby making the entire composite matrix,. . .

DETD [0172] Instead of plastic foam parts, balls or rods of wax, plastic, or other evaporative solids may be first plated or sprayed with a thin metal layer of a thickness sufficient to make each hollow powder or rod self-standing but insufficient to prevent the loss of the evaporative solid from within the coated metal shell when. . . solid, the hollow ball or rod is further metal-coated to the required metal thickness r.sub.2- r.sub.1. This is a modified lost-wax process used widely in the casting of metals. Tiny wax or heat-sealable plastic ware may also be used to be cut into pieces and flame spherodized or ends-rounded respectively into. . .

CLM What is claimed is:

. . . elements; and at least a majority of said solid reinforcing elements are selected from the group consisting of solid powders, hollow powders, solid fibers, hollow fibers, and combinations thereof.

. . . manufacture as in claim 18 in which said solid reinforcing elements are selected from the group consisting of solid powders, hollow powders, solid fibers, hollow fibers, and combinations thereof.

L1 ANSWER 10 OF 13 USPATFULL on STN

AB Methods of making improved electronic systems and circuits boards, and more specifically to methods of making improved electronic systems and circuits boards using heat-resistant composite materials having superior mechanical, thermal, and electrical properties.

ACCESSION NUMBER: 2001:151151 USPATFULL
TITLE: Heat-resistant electronic systems and circuit boards
INVENTOR(S): Li, Chou H., 8001 Sailboat Key Blvd., Unit 404, South Pasadena, FL, United States 33707

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6286206	B1	20010911
APPLICATION INFO.:	US 1998-53741		19980402 (9)

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Continuation-in-part of Ser. No. US 1997-805535, filed on 25 Feb 1997, now patented, Pat. No. US 5932348
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Young, Lee
ASSISTANT EXAMINER: Chang, Rick Kiltae
NUMBER OF CLAIMS: 41
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 6 Drawing Page(s)
LINE COUNT: 1882

DETD . . . or freezing the liquid mixture or suspension to provide a solidified reinforced composite. The reinforcing elements may be solid or hollow powders, rods, sheets, weaves, or combinations thereof.

DETD . . . occurs in the liquid composite matrix. Further, this non-uniform distribution pattern is carried over during the composite matrix solidification, e.g., resin matrix polymerization in a cast mold or lead-tin composite matrix freezing in a soldered joint.

DETD . . . reinforcing elements suspended or mixed therein. The hard, usually refractory or heat-resistant reinforcing elements are ceramic (or metal) solid or hollow powders, fibers, or more complicated shapes such as special weaved structures. These reinforcing elements improve the creep resistance at temperatures at. . .

DETD . . . various interconnection processes. The new composite is reinforced by suspended or embedded ceramic, intermetallic, metal, or glass reinforcing solid or hollow powders, rods, sheets, weaves, or combinations thereof. The solid reinforcing elements are rigid and heat-resistant, thereby making the entire composite matrix,. . .

DETD Instead of plastic foam parts, balls or rods of wax, plastic, or other evaporative solids may be first plated or sprayed with a thin metal layer of a thickness sufficient to make each hollow powder or rod self-standing but insufficient to prevent the loss of the evaporative solid from within the coated metal shell when. . . solid, the hollow ball or rod is further metal-coated to the required metal thickness r.sub.2 -r.sub.1. This is a modified lost-wax process used widely in the casting of metals. Tiny wax or heat-sealable plastic wire may also be used to be cut into pieces and flame spherodized or ends-rounded respectively into. . .

CLM What is claimed is:
. . . elements; and at least a majority of said solid reinforcing elements are selected from the group consisting of solid powders, hollow powders, solid fibers rods, sheets, and ellipsoids, hollow fibers, and combinations thereof.

L1 ANSWER 11 OF 13 USPATFULL on STN

AB The present invention provides a heat-sensitive recording material high in sensitivity and whiteness. That is, a heat-sensitive recording material which comprises a support and a recording layer between which an intermediate layer is provided and which is of high sensitivity could be obtained by using a latex having a temperature-sensitive gelling

characteristic as a binder of the intermediate layer and by adjusting pH of a coating solution of the intermediate layer to 7.0 or more, and adjusting temperature of the coating solution at the time of preparation and coating to a temperature lower at least 20° C. than the gelling temperature of the temperature-sensitive latex. Furthermore, a heat-sensitive recording material of high whiteness and very high printability could be obtained by adding a non-crosslinking type acrylic alkali thickening agent to the coating solution of the intermediate layer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2000:70781 USPATFULL			
TITLE:	Heat-sensitive recording material and method for producing same			
INVENTOR(S):	Wakamatsu, Kiichiro, Tokyo, Japan			
PATENT ASSIGNEE(S):	Mitsubhishi Paper Mills Limited, Tokyo, Japan (non-U.S. corporation)			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6071851		20000606	
	WO 9806589		19980219	
APPLICATION INFO.:	US 1998-43150		19980313	(9)
	WO 1997-JP2761		19970807	
			19980313	PCT 371 date
			19980313	PCT 102(e) date
	NUMBER		DATE	
PRIORITY INFORMATION:	JP 1996-209654		19960808	
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Hess, Bruce H.			
LEGAL REPRESENTATIVE:	Pillsbury Madison & Sutro LLP			
NUMBER OF CLAIMS:	9			
EXEMPLARY CLAIM:	1			
LINE COUNT:	996			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . been shown to use water-soluble polymers such as starch, casein, PVA, methylcellulose, carboxymethylcellulose, hydroxyethylcellulose and polyacrylic acid, and various synthetic resin emulsions such as styrene-butadiene copolymer, acrylonitrile-butadiene copolymer, colloidal silica particles-containing styrene-acrylate copolymer and acrylic acid copolymer. However, when an intermediate. . .

SUMM . . . earth, synthetic aluminum silicate, zinc oxide, titanium oxide, aluminum hydroxide, barium sulfate and surface-treated calcium carbonate and silica, and organic resin fine powders such as urea-formalin resin, styrene/methacrylic acid copolymer and polystyrene resin. Porous calcined clay and porous silica are preferred.

SUMM . . . hollow particles used in the intermediate layer include 1 those obtained by expanding thermally expandable fine spheres, 2 glass fine hollow powder and 3 alumino-silicate fine hollow powder. These fine hollow particles have a particle size in the range of 0.3-200 μm, and when they are used in. . .

SUMM . . . is preferably 20-60% by weight. If the content is less than 20% by weight, adhesion strength is insufficient when the resin latex is used as a binder for fibers and others, and if it exceeds 60% by weight, the formed film. . .

SUMM . . . preferably 20-60% by weight. If the content is less than 10% by weight, strength of the formed film of the resin latex is insufficient and if it exceeds 80% by weight, adhesion strength is

inferior when the resin latex is used as a binder for fibers and others.

SUMM Resin content in the dispersion (C) is usually 20-75%, preferably 40-60%. Particle size of the polymer in (C) is usually 10-500. . .

SUMM . . . alumina, magnesium, talc, barium sulfate, zinc oxide, titanium oxide, surface-treated calcium and silica, and organic fine powders such as urea/formalin resin, styrene/methacrylic acid copolymer and polystyrene. Examples of the lubricant are esters, amides or metal salts of higher fatty acids, and, besides, various waxes, condensates of aromatic carboxylic acids and amines, phenyl benzoate, higher straight chain glycols and other heat-meltable organic compounds. Furthermore, fine. . . as aluminum stearate can be added to improve sharpness of color images, and lubricants such as lineseed oil, tung oil, waxes, paraffins, polyethylene wax, paraffin chloride and metal salts of higher fatty acids can be added to further improve running property of thermal head.

SUMM The support is generally paper, and resin films, synthetic papers, nonwoven fabrics and the like can also be used. Especially when the support is paper, the intermediate. . .

DETD

Water	115	parts by weight
5% PVA (Trade name: PVA117 manufactured by Kuraray Co., Ltd.)	100	parts by weight
20% Acryl emulsion resin (Trademark: OM1050 manufactured by Mitsui Toatsu Chemicals, Inc.)	50	parts by weight
Fine powder silicic acid (Trademark: MIZUKASIL P527 manufactured by. . .	10	parts by

L1 ANSWER 12 OF 13 USPATFULL on STN

AB A method of making a floor covering having decorative inlays therein is disclosed. The method comprises the steps of cutting and removing portions of the floor covering, providing inlays from another floor covering material having substantially the same shapes and sizes as the removed portions, and joining the inlays and floor covering to create a seamless structure. The seamless structure results from the application of a volatile solvent which causes the thermoplastic properties of the materials within the inlays and floor covering to fuse.

ACCESSION NUMBER:	97:70560 USPATFULL
TITLE:	Method of making inlaid floor coverings
INVENTOR(S):	Schilling, Lee Hilton, Lookout Mountain, GA, United States Moot, Lorence M., Cohutta, GA, United States
PATENT ASSIGNEE(S):	Collins & Aikman Floorcoverings, Inc., Dalton, GA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5656109		19970812	
APPLICATION INFO.:	US 1995-520170		19950828	(8)
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Ball, Michael W.			
ASSISTANT EXAMINER:	Yao, Sam Chuan			
LEGAL REPRESENTATIVE:	Martinez de Andino, J. MichaelMcGuire, Woods, Battle & Boothe, L.L.P.			

NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 542

SUMM . . . inserted into the backing by tufting needles and maintained permanently in place by a heat-sensitive coating composition (e.g., a thermoplastic resin) applied to the back surface of the primary backing. When heat is applied to the composition, the pile yarns are. . .

SUMM . . . adhesive substrate. The inlay(s) and textile substrates are preferably fused using a volatile solvent to gel or soften the thermoplastic resin coating compositions so that the inlay(s) and substrate can be joined together. The result is an inlaid textile substrate that. . .

SUMM . . . primary backing to provide a face surface, and a secondary backing secured to the primary backing using a first thermoplastic resin coating composition. The textile substrate has one or more openings therein for receiving one or more decorative inlays. The inlay. . . primary backing to provide a face surface, and a secondary backing secured to the primary backing using a second thermoplastic resin coating composition. The textile substrate may additionally comprise a plurality of decorative inlays therein.

SUMM The inlay and the textile substrate are fused, employing the thermoplastic properties of the first and second resin coating compositions to create a substantially seamless textile substrate that resists separation of the inlay from the textile substrate caused by stretching. The resin coating compositions for both the textile substrate and inlay may comprise a polymer or copolymer of a vinyl compound, such. . .

DETD . . . carpet 11 comprises a primary backing 20 having textile fibers 14 extending outwardly from an upper surface 20a, a first resin coating composition 25, a secondary backing 30, and optionally, a releasable adhesive layer 45 with a release cover 46. The textile fibers 14 are bonded to the primary backing 20 using a first resin coating composition 25, sometimes referred to as a "tuft-lock" coating. Methods for making a tufted carpet having a tuft-lock coating. . .

DETD . . . loops 18. The pile loops 18 are relatively loosely attached to the primary backing 20. A coating of a first resin coating composition 25 is applied to the lower surface 20b of the primary backing 20 and penetrates between the interstices of the pile loops 18 and the primary backing. Heat is then applied to the first resin coating composition 25 in order to fuse the first resin coating composition and the pile loops 18 to the primary backing 20. The term "fuse" indicates that the first resin coating composition 25, pile loops 18, and primary backing 20 are permanently bonded without requiring any external bonding agent, such. . .

DETD . . . material 31 comprising a primary backing 32 having textile fibers 33 extending outwardly from an upper surface 32a, a second resin coating composition 34, and a secondary backing 35. The textile fibers 33 are bonded to the primary backing 32 using a second resin coating composition 34, or "tuft-lock" coating.

DETD . . . loops (not shown). The pile loops are relatively loosely attached to the primary backing 32. A coating of a second resin coating composition 34 is applied to the lower surface 32b of the primary backing 32 and penetrates between the interstices of the pile loops and the primary backing. Heat is then applied to the second resin coating composition 34 in order to fuse the resin coating composition and the pile loops to the primary backing 32.

DETD Preferably, the first and second resin coating compositions 25, 34 are a thermoplastic material and are the same. Thermoplastic materials are not subject to chemical change. . . consisting of acrylic, vinyl, chlorinated vinyl, styrene, butadiene, ethylene, butene, and copolymers or blends thereof. A preferred first and second resin coating composition 25, 34 is a polymer or copolymer of a

vinyl compound, e.g., polyvinyl chloride, polyvinylidine chloride, polyethylene chloride, polyvinyl acetate, polyvinyl acetal, etc., and copolymers and mixtures thereof. A preferred specific example of a first and second resin coating composition 25, 34 is a vinyl chloride, resin-based plastisol, wherein the plasticizer component of the plastisol is a phthalate-based compound, such as an alkyl phthalate substituted one or. . . in an amount by weight equal to between about 15 to 60 percent of the weight of the vinyl chloride resin component. Particularly preferred vinyl chlorides include Vinycel 124 (Policyd SA DE CV, Mexico), Geon® 13 oz (Geon Company, Cleveland, Ohio),. . . Louis, Mo.), Palatinol® 711P (BASF Corporation, Parsippany, N.J.), and Jayflex DHP (Exxon Chemical America, Houston, Tex.). The first and second resin coating compositions 25, 34 can be applied as a unitary layer, or one or more additional layers of the same or different resin coating compositions can be applied. For example, a highly filled composition can be applied, followed by application of a less filled resin coating composition.

DETD After the pile loops 18 and first resin coating composition 25 are fused to the primary backing 20 of the tufted carpet 11, additional heat is applied to the resin coating composition and a relatively cold secondary backing 30 is contacted with the heated first resin coating composition. The temperature of the heated first resin coating composition 25 is sufficient to melt the contacting surface 30a of the secondary backing 30, thereby bonding the secondary backing to the first resin coating composition and creating an integral structure.

DETD Similarly, after the pile loops and second resin coating composition 34 are fused to the primary backing 32 of the tufted inlay material 31, additional heat is applied to the second resin coating composition and a relatively cold secondary backing 35 is contacted with the heated second resin coating composition. The temperature of the heated second resin coating composition 34 is sufficient to melt the contacting surface 35a of the secondary backing 35, thereby bonding the secondary backing to the second resin coating composition and creating an integral structure.

DETD . . . propylene, isobutylene, vinyl chloride, and copolymers or blends thereof. The secondary backings 30, 35 can be a neat or blended resin or can be filled with organic or inorganic fillers. Exemplary inorganic fillers can be in fibrous, flake, crystalline, amorphous, hollow, powder, or particulate form. Exemplary fillers include calcium carbonate, calcium sulfate particles, magnesium oxide, magnesium hydroxide, perlite, synthetic mica, vermiculite, clays,. . .

DETD . . . and inlay 13 each comprise a primary backing 20, 32, having textile fibers 14, 33 secured thereto, first and second resin coating compositions 25, 34, respectively, and secondary backing layers 30, 35, respectively. Preferably, the cross-sectional thickness of the cut carpet. . .

DETD . . . to an adhesive substrate (not shown). Materials suitable as an adhesive substrate include paper, for example freezer paper, having a wax coating. Freezer paper has sufficient adhesion to hold the pieces in place as they are fused, but releasable enough to. . .

DETD The fusing step preferably comprises applying a volatile solvent that gels or softens the first and second thermoplastic resin coatings, 25, 34 of the carpet 11 and the inlay 13 so that they will fuse permanently. The solvent chosen should be one which gels or softens both the first and second resin coating compositions 25, 34; and secondary backings 30, 35 of the carpet 11 and inlay 13 become permanently bonded without. . .

CLM What is claimed is:

. . . to which the outer face is secured, and a secondary backing secured to the primary backing using a first thermoplastic resin coating composition, said method comprising the steps of: (a) removing a

first portion from the textile substrate thereby creating an opening wherein vertical side faces are exposed in the first thermoplastic resin; (b) providing an inlay substantially identical in shape and size as the first portion and having an outer face, a. . . to which the outer face is secured, and a secondary backing secured to the primary backing using a second thermoplastic resin coating composition, the second thermoplastic resin having vertical side faces; (c) inserting the inlay into the opening created in the textile substrate such that the inlay and the opening substantially coincide; and (d) fusing the vertical side faces of the first thermoplastic resin with the vertical side faces of the second thermoplastic resin such that the inlay and the textile substrate are fused together, without a reinforcing material on the underside surfaces of. . .
2. The method of claim 1 wherein the first and second resin coating compositions are a polymer or copolymer of a vinyl compound.

. . . The method of claim 1 wherein said step (d) includes applying a volatile solvent to the first and second thermoplastic resin coating compositions.

. . . textile fibers extending from the primary backing, and a secondary backing secured to the primary backing using a first thermoplastic resin coating composition, said method comprising the steps of: (a) removing a first portion from the carpet, thereby creating an opening wherein vertical side faces are exposed in the first thermoplastic resin; (b) providing an inlay substantially identical in shape and size as the first portion and having a tufted outer face,. . . to which the outer face is secured, and a secondary backing secured to the primary backing using a second thermoplastic resin coating composition, the second thermoplastic resin having vertical side faces; (c) inserting the inlay into the opening created in the tufted carpet such that the inlay and the opening substantially coincide; (d) fusing the vertical side faces of the first thermoplastic resin with the vertical side faces of the second thermoplastic resin such that the inlay and the carpet are fused together, without a reinforcing material on the underside surfaces of the. . .
15. The method of claim 14 wherein the first and second resin coating compositions are a polymer or copolymer of a vinyl compound.

. . . The method of claim 14 wherein said step (d) includes applying a volatile solvent to the first and second thermoplastic resin coating compositions.

L1 ANSWER 13 OF 13 USPATFULL on STN

AB An article suitable for use in bonding to metal, glass, or ceramic substrates at high temperatures, e.g., above about 400° C, comprises (a) a thermally stable backing material, such as a metal foil or an inorganic fabric; and (b) a coating on at least a portion of at least one major surface of the backing material, the coating consisting essentially of fused or fusible particles selected from glass particles, ceramic particles, and mixtures thereof. Preferably, the coating further contains a non-pressure sensitive adhesive vehicle such as pine oil, to aid in application and retention of the particles.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	94:97393 USPATFULL
TITLE:	High temperature label
INVENTOR(S):	Holzer, Mark R., Woodbury, MN, United States Lange, Roger W., Maplewood, MN, United States
PATENT ASSIGNEE(S):	Minnesota Mining and Manufacturing Company, St. Paul, MN, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5362554		19941108	
APPLICATION INFO.:	US 1992-927821		19920810	(7)
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Bell, James J.			
LEGAL REPRESENTATIVE:	Griswold, Gary L., Kirn, Walter N., Weiss, Lucy C.			
NUMBER OF CLAIMS:	22			
EXEMPLARY CLAIM:	1			
LINE COUNT:	881			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . as a heat-resistant label. This glass powder adhesive sheet comprises a glass powder molding layer comprising a glass powder, a resin binder, and, if necessary, inorganic powder and/or metal powder, and an adhesive layer having a thermal decomposition initiation temperature higher than that of the resin binder. The preferred materials for the adhesive layer are those having pressure-sensitive adhesive properties at room temperature.

SUMM . . . "particles" refers to particulate materials which can be either regular or irregular in shape, e.g., flakes, fibers, microspheres (solid or hollow), powders, and the like can be utilized. Preferably, the coating further contains a non-pressure sensitive adhesive vehicle, e.g., pine oil, to. . .

SUMM . . . leaving little or no residue. Materials such as methyl cellulose, polyvinyl alcohol, polyvinyl pyrrolidone, polyethylene glycol, pine oil, hot melt waxes, organic salts (such as dioctyl sodium sulfosuccinate), and the like can be used as the vehicle. Mixtures of these are also useful. Pine oil, for example, burns out cleanly and provides good coating characteristics. Hot melt waxes can be melted prior to combination with the fusible particles. Vehicles such as methyl cellulose, polyvinyl alcohol, and polyvinyl pyrrolidone. . .

CLM What is claimed is:

. . . vehicle is selected from the group consisting of methyl cellulose, polyvinyl alcohol, polyvinyl pyrrolidone, polyethylene glycol, pine oil, hot melt waxes, organic salts, and mixtures thereof.